Drinking Sparkling Water Will Force Your Body To Produce More Bicarbonate Ions To Avoid Hypercapnia

By Joachim Bartoll | Jan. 25th, 2025

Send to Kindle

Today we return to Medical News Today and another great example of the wrong-think and the embarrassing lack of knowledge we see in almost every single medical- and nutritional study conducted today — as well as the publications writing about them. This should be basic level biology, physiology, and biochemistry, yet they fail at almost every single step.

Let's see what the morons have to say about something as stupid as sparkling water and its alleged effects on glucose metabolism and weight loss. And be warned, I will be very nice, polite, and politically correct today, as I always am. Or not.

> *"Carbonated water or sparkling water is water that contains carbon dioxide (CO_2). It's more commonly called sparkling water, and experts are interested in potential health benefits and drawbacks. One area of interest is how drinking sparkling water may assist with weight loss."*

That idea is so amazingly retarded I don't even know where to start. While carbonated water found in nature, such as from mineral springs, has been used by humans since ancient times, it was due to lack of understanding and more due to it being rare and giving those bathing in it, or drinking it, new sensations overwhelming their senses, deceiving them into thinking it was something special or even "magical." However, as we know from simple biochemistry, the minerals found in water are not really bioavailable and need to be converted by our body, a costly process that causes a lot of toxicity. So, while you might be able

to temporarily fix mineral deficiencies, you do so by causing tremendous damage and build-up of toxic waste in your body. Not a good trade off at all. The only source of bioavailable minerals, as with any nutrient, is from animal-based foods where the nutrients are stored in the same way as we store them in our cells. 100% compatible and no conversion needed.

Mineral Conversion and Toxicity

Minerals found in the earth or in carbonated water are not chemically identical to the minerals stored in our tissues. According to biology, physiology, and biochemistry, the minerals in our body are in a specific form that can be utilized by our cells.

- **Inorganic minerals**: These are the minerals found in the earth or in carbonated water, which are not directly usable by the human body.
- **Organic minerals**: These are the minerals that are bound to organic molecules, such as amino acids or other carbon-based compounds, and are the form in which minerals are stored in our tissues.

When inorganic minerals are consumed, they need to be converted into their organic form to be utilized by the body. This conversion process can be inefficient, resulting in a lower yield of usable minerals. Additionally, the conversion process can also produce toxic waste products, which can be harmful to the body if not properly eliminated.

According to biology, physiology, and biochemistry, minerals found in meat and organ meats are indeed stored in a form that can be readily utilized by the human body. **When consumed, these minerals do not require significant conversion to be absorbed and utilized by the body.**

In biology, biochemistry, and physiology, it is widely accepted that nutrients found in animal-derived foods, such as meat and organ meats, are stored similarly to those in human tissues. This means that the nutrients in animal products are:

1. **Fully bioavailable**: The nutrients in animal-derived foods are readily absorbed and utilized by the human body, just like those stored in human tissues.
2. **Non-toxic**: Since the nutrients are stored in a similar manner, they cannot be toxic or harmful to humans. The body's natural processes recognize and utilize these nutrients without adverse effects.

> *"A report published in BMJ Nutrition, Prevention & Health discussed how drinking sparkling water may contribute to weight loss. It suggests that the CO2 in the water leads to increased glucose breakdown and increased glucose uptake by red blood cells. This may contribute to weight loss."*

If you know anything about human physiology, you know that carbon dioxide, just like blood glucose and everything else within the blood, is closely monitored and managed to avoid toxicity. If any of these compounds increases by unnatural means, as through consumption or injection, your body has to put all its resources into neutralizing it and bring it down to normal levels again to avoid tissue and organ damage. Of course, this stress response to regain homeostasis will require quite a lot of energy. However, that is not a good strategy for weight loss, that is simply stressing the body by poisoning it, a very retarded thing to do.

I added the crucial word 'allegedly' to your subtitle, as I do not want anyone to actually consider this incredibly stupid idea.

> *"The report begins by noting a few ways that drinking sparkling water may help with weight loss. For example, drinking sparkling water may lead to increased feelings of fullness. The report notes that it may also lower blood sugar levels but that the mechanisms are not entirely clear. The relationship between blood sugar and drinking carbonated water is the main focus of the report."*

I've covered the idiotic idea of drinking water or, in this case carbonated water, to "feel full," in my article "*Dumb and Dumber: Drinking Water to Aid Fat Loss*."

As for “lowering blood sugar levels,” I explained that in my statement above. However, as the authors of this paper are complete morons, I will go into deeper detail as they continue to stumble and fall flat on their faces.

> *“After sparkling water is consumed, CO2 goes through the stomach capillaries into the bloodstream. From here, the red blood cells use an enzyme called carbonic anhydrase to convert the CO2 into bicarbonate (HCO3-).”*

Yes, exactly. And if you know anything about biology or physiology, you should also know why this happens.

> *“Next, the interior of the red blood cells ultimately becomes alkaline or less acidic. This leads to an increase in the breakdown of glucose by the red blood cells to produce energy, a process called glycolysis.”*

And bam! The silly acidic and alkaline pseudoscience that you usually only find amongst gullible and retarded self-proclaimed “holistic healers” or “natural remedies practitioners.”

While the pH might be temporarily affected due to chemical processes, the pH of all tissues are very strictly controlled and regulated all through the body and will return to normal almost immediately to make sure that these chemical processes can actually occur in the first place. Different tissues require different pH levels to function and your body will do everything it can to keep these pH levels within these optimal ranges. The only time a tissue might become more acidic is when it’s undergoing detoxification and repair, as it is needed for removal of some toxins.

The importance of maintaining a stable pH range in cells is crucial for their functionality, as changes in pH can affect various cellular processes. According to biology, physiology, and biochemistry, chemical processes in cells can temporarily alter the pH, but the cell quickly returns to its normal pH range. This is because many enzymes and proteins are sensitive to pH changes and can only function optimally within a specific pH range.

So, to conclude, a slight and temporary change in pH in a cell has absolutely nothing to do with the cell's functionality, it's simply an effect of a chemical process. It's the chemical process that requires energy, as in ATP, which is provided by blood glucose.

Glucose Metabolism Basics

According to biology, physiology, and biochemistry, **glucose uptake in cells is primarily driven by the energy demand of specific chemical processes**, rather than temporary changes in the cell's pH or alkalinity. The process of glycolysis, where glucose is broken down to produce energy, is a key example of this. As the cell requires energy, it increases the uptake of glucose through various mechanisms, such as the regulation of glucose transporters. This ensures that the cell can meet its energy demands, regardless of temporary fluctuations in pH or alkalinity. The energy-consuming phase of glycolysis, which requires the investment of 2 ATP molecules, ultimately leads to the production of 4 ATP molecules, resulting in a net gain of 2 ATP molecules. This process highlights the importance of energy demand in promoting glucose uptake in cells.

courses.lumenlearni... Carbohydrate Metabolis... | ncbi.nlm.nih.gov Physiology, Glucose Met... | ncbi.nlm.nih.gov Biochemistry, Glycolysis...

> *"This is believed to promote glycolysis and increase the red blood cells' glucose uptake from the plasma."*

No, you frikkin' imbeciles. Let me explain what actually is happening. Normally, carbon dioxide enters the bloodstream through several mechanisms, primarily

from our body's tissues where it is produced as a byproduct of cellular respiration. About 5 to 7 percent of carbon dioxide directly dissolves into the plasma of the blood. This dissolved CO_2 travels through the bloodstream to the lungs (where it can diffuse into the alveoli and be exhaled.)

Around 10 percent of carbon dioxide binds to hemoglobin, forming a compound called carbaminohemoglobin. This binding is reversible, allowing the CO_2 to be released in the lungs.

And the majority of carbon dioxide, approximately 70 percent, is transported as bicarbonate ions (HCO_3^-.) This process involves red blood cells and the enzyme carbonic anhydrase, which catalyzes the reaction of carbon dioxide and water to form carbonic acid (H_2CO_3.)

Now, if you drink carbonated water, some of that carbon dioxide will enter the bloodstream through the capillaries of the stomach and the body will deal with it the same way as it deals with CO_2 released from our tissues. This is crucial, as excess CO_2 in the blood can lead to what is called hypercapnia, as in the blood becoming too acidic, causing symptoms such as headaches, dizziness, and confusion — and ultimately respiratory failure, leading to a coma and potentially death.

So, again, your body will always strive to upkeep homeostasis, the delicate balance of all compounds in the correct amounts within the blood to avoid toxicity and damage. And as for additional CO_2 from consuming carbonated water, it is converted into bicarbonate ions by red blood cells through an energy-demanding process depending on ATP from blood glucose. In simple terms, adding additional CO_2 to the blood increases the energy demand as your body is fighting to maintain a healthy blood pH, as in avoiding hypercapnia. It has absolutely nothing to do with red blood cells becoming temporarily more alkaline, it has to do with the energy-demanding chemical process of converting CO_2 into bicarbonate ions. And this is what is causing an temporary increase in "*the red blood cells' glucose uptake from the blood plasma.*"

The statement that alkalinity from CO2 does not promote glycolysis in red blood cells is accurate, as the primary function of the bicarbonate buffer system is to maintain acid-base balance, not to promote glycolysis. Additionally, **the conversion of CO2 into bicarbonate ions is essential to prevent hypercapnia**, a condition characterized by elevated CO2 levels in the blood, which can lead to respiratory acidosis.

The energy demand for converting CO2 into bicarbonate ions is indeed related to the process of glucose uptake in red blood cells. However, it is not the alkalinity from CO2 that directly promotes glucose uptake. Instead, the energy required for the conversion of CO2 into bicarbonate ions is met by the metabolism of glucose. Glucose is transported into red blood cells through facilitated diffusion, a process mediated by protein carrier molecules. Once inside the cell, glucose is phosphorylated to glucose-6-phosphate, which can then be metabolized to produce energy in the form of ATP.

> *"Report author Akira Takahashi with the Dialysis Center at Tesseikai Neurosurgery Hospital in Shijonawate, Japan, highlighted the main points of the report this way:*
> *When carbonated water is consumed, CO_2 is absorbed into the blood vessels in the stomach. This CO_2 rapidly penetrates the lipid membranes of red blood cells and is converted into bicarbonate ions by carbonic anhydrase, increasing the alkalinity of the red blood cells. This alkalinity promotes glycolysis, which consumes glucose in red blood cells and lowers blood glucose levels.*
> *Thus, sparkling water could indirectly help weight loss through its effect on blood glucose."*

Again, no. The temporary alkalinity has nothing to do with it. It is the chemical process of converting CO_2 into bicarbonate ions that temporarily promotes glycolysis as the energy demand of the cells increases, making the red blood cells consume more glucose (ATP.)

And again, this is not a good thing as it's simply additional stress on the body, as your body has to work harder to avoid toxicity and harm.

> *"This paper overall offers valuable insights into how sparkling water may contribute to weight loss and the underlying physiological processes that may be involved."*

No, it does not, as the authors are retarded morons. This is simple biochemistry. And adding stress to the body to force it to use a few measly additional grams (at best) of glucose is idiotic. The effect will hardly be noticeable. Simply reduce the intake of toxic carbohydrates instead. That will make a huge difference!

The conversion of carbon dioxide into bicarbonate ions is a vital mechanism that helps to regulate the body's acid-base balance and prevent hypercapnia, a condition characterized by an excessive amount of carbon dioxide in the blood. Although this process is necessary, it can be considered a stress on the body, as it is not the body's natural state.

> *"Mir Ali, MD, board certified general surgeon, bariatric surgeon, and medical director of MemorialCare Surgical Weight Loss Center at Orange Coast Medical Center in Fountain Valley, CA, commented the following about the study to Medical News Today:*
>
> *This is an interesting study, though it is theoretical and requires clinical research in people comparing consumption of carbonated water vs non-carbonated water. If studies in humans show a benefit of carbonated water, then it may be an adjunct to a healthy diet."*

Seriously MNT, where do you find these imbeciles? How can something that adds toxicity and stress to the body be considered an "adjunct" to a "healthy diet?"

When too much carbon dioxide enters the bloodstream, it is converted into bicarbonate ions by red blood cells through the action of the enzyme carbonic anhydrase. This process helps to prevent hypercapnia, a condition where there is an excessive amount of carbon dioxide in the blood. **Although this conversion is necessary to maintain blood pH levels, an excessive amount of bicarbonate ions can still be stressful and potentially toxic to the body**.

There are no benefits. But let's humor them.

> **"The potential benefits are largely unknown, though there have been some studies that show carbonated water may aid in constipation relief," Ali noted. He suggests the potential downsides of drinking carbonated water include bloating and gas.**
>
> *"The potential benefits are largely unknown, though there have been some studies that show carbonated water may aid in constipation relief, Ali noted. He suggests the potential downsides of drinking carbonated water include bloating and gas."*

How can you claim "potential benefits" if they are "largely unknown"? You guys really are stupid, and embarrassingly so.
And aid in constipation, while promoting bloating and gas? Wow, just wow. I rest my case.

> *"Overall, the potential benefit of drinking sparkling water to promote weight loss is minimal. When comparing it to what occurs in hemodialysis, Takahashi noted the following:*
>
> *During a four-hour session of hemodialysis, only about 9.5g of glucose is consumed. Since drinking carbonated water provides CO_2 for a much shorter period than hemodialysis, its effect on glucose consumption is negligible and does not contribute to weight loss."*

Note: hemodialysis, or simply dialysis, is a process of filtering the blood of a person whose kidneys are not working normally. And as for the minimal effect on blood glucose, well, I told you so. Stop the nonsense of trying to find a magical pill and simply remove the offender, as in removing the toxic carbohydrates from

the diet. Problem solved. No more blood glucose issues, no more toxicity, no more damaged soft tissues, and no more body fat gain.

So, to summarize, Medical News Today made a huge article about a nonsensical study on something as stupid as adding CO_2 to the bloodstream to force the body to use a little more glucose to convert it into bicarbonate, which in the end has no relevant effect on anything, much less on weight loss. Way to go!

But thank you for giving me the opportunity to explain how our body deals with CO_2 and once again putting the pseudoscience nonsense of "alkalizing" the body to rest.

If you need help with any kind of health problems or transitioning from your current way of eating to our natural species-appropriate, species-specific way of eating, I'm available for both coaching and consultation.

Coaching and Consultation

And if you found the article and my insights helpful and enjoy my daily free information, please consider donating to help pay the webhosting bills and keep the site running. And if you're interested in discussing and sharing information with likeminded people, consider joining our uncensored community at Ungovernable.se. Thank you!

---

https://bartoll.se/2025/01/sparkling-carbonated-water-glucose-metabolism/

If you wish to support my work